
UNITED STATES POSTAL SERVICE[®]
NATIONAL ENERGY MANAGEMENT STRATEGY

DECEMBER 2013

NATIONAL ENERGY MANAGEMENT STRATEGY

TABLE OF CONTENTS

Executive Summary.....	4
Introduction	5
Objectives & Goals	6
Responsible Offices.....	7
Corporate Investment	8
Investment criteria	9
Staffing and accountability	10
Overcoming barriers	10
Energy Supply Risks and Climate Change	10
Fleet & Fuel.....	11
Fleet Management Strategies	11
Vehicle Testing and Acquisition.....	11
Maximize use of alternative vehicles	12
Optimize logistics.....	13
Summary – Fleet Management	13
Fuel Management Strategies	14
Manage data.....	14
Implement no-cost and low-cost measures.....	14
Purchasing strategies	15
Summary – Fuel Management	16
Facility Energy.....	16
Facility energy management strategies	17
Evaluate emerging and new technologies	17
Implement an enterprise-wide energy management system	18
Infrastructure strategies	18
Identify and implement energy projects	18
Construct High Performance buildings	19
Increase use of viable renewable energy sources	20
Automation and Fixed Mechanization Equipment strategies	20
Implement standards for equipment efficiency.....	20
Maintenance and Operation of Equipment.....	21
Reduce energy impact of IT infrastructure	22

Summary – Facility Energy	23
Utility Management.....	23
Use competitive commodity contracts in deregulated markets, negotiate utility agreements in regulated markets	24
Implement demand management opportunities	25
Improve centralized utility bill and audit management.....	25
Summary – Utility Management	26
Energy Awareness	26
Awareness activities & training for employees.....	26
Recognize success.....	26
Summary – Energy Awareness.....	27
Acronyms	28

EXECUTIVE SUMMARY

The U. S. Postal Service uses energy to process, transport and deliver mail. Sustainable energy management is crucial to the Postal Service’s viability and mission. The Postal Service spends more than a billion dollars every year on energy and fuel for facilities and its fleet –Energy is an important business concern. The Postal Service is also driven to cut energy use to reduce the greenhouse gases that result from burning fossil fuels – like petroleum.

This National Energy Management Strategy covers all aspects of Postal Service operations, including fleet, fuel, facility, and utility management. Energy management affects every energy user at a facility. The strategy describes the progress since the last version was released and the objectives and goals that drive energy conservation activities. Then it describes the responsible offices within the organization and the investment criteria and risk considerations for decision-making. For each aspect of energy management, this document describes the high level strategic activities that represent the current strategy of the Postal Service.

The Postal Service recognizes the advantage of a holistic energy management approach. This strategy continues the vision set in the 2008 release of the first version. It outlines challenges and opportunities to continue to reduce facility energy consumption and to begin to turn around the Postal Service’s increasing vehicle petroleum use.

Below is a summary of the objectives and strategy identified in this strategy:

Objectives	Strategies
Consider energy in logistics, network and vehicle purchase decision making	<ul style="list-style-type: none"> ▪ Partner with other stakeholders to optimize logistics ▪ Inform future decision making through vehicle R&D
Reduce petroleum consumption and take actions that reduce fuel use	<ul style="list-style-type: none"> ▪ Acquire fuel-efficient vehicles ▪ Maximize use of alternative fuel vehicles ▪ Consolidate or decrease routes to reduce mileage traveled ▪ Implement no-cost/low-cost measures ▪ Increase employee awareness about fuel conservation ▪ Leverage group purchasing and optimize fueling options
Implement all available and proven technologies that can improve the energy performance of facilities without adversely impacting mission or operations	<ul style="list-style-type: none"> ▪ Identify and implement capital energy projects in existing facilities ▪ Implement low-cost and no-cost energy conservation opportunities (ECOs)
Improve visibility of, and the ability to locally and remotely monitor energy/utility consumption and equipment performance	<ul style="list-style-type: none"> ▪ Expand Enterprise Energy Management System (EEMS)
Exceed the ASHRAE 90.1-2004 building efficiency standard by 30 percent or the largest amount practical	<ul style="list-style-type: none"> ▪ Design and build high-performance buildings. ▪ Maintain Building Design Standards
Reduce use of fossil energy sources	<ul style="list-style-type: none"> ▪ Increase use of viable renewable energy sources ▪ Continue to increase efficiency of buildings and equipment
Manage costs by ensuring the best value from utility commodity suppliers	<ul style="list-style-type: none"> ▪ implement demand management opportunities ▪ Perform centralized utility bill and audit management

Objectives	Strategies
	<ul style="list-style-type: none"> ▪ Maximize rate and utility partnership agreements to achieve cost savings and assure the most favorable terms and conditions in regulated markets
Enable and encourage more efficient behavior	<ul style="list-style-type: none"> ▪ Provide information to employees through web-based, video, and other materials
Encourage employees to implement sustainable energy management practices	<ul style="list-style-type: none"> ▪ Acknowledge success with recognition programs ▪ Provide training ▪ Leverage no-cost and low-cost opportunities

INTRODUCTION

The purpose of this National Energy Management Strategy is to continue our approach that focuses on reducing consumption and costs, while supporting continuity of operations. This strategy identifies energy goals, objectives and strategies for all aspects of operations, including utilities management, facilities design, construction, major renovations and operations and maintenance, fleet management, vehicle research and development (R&D), alternative fuels practices and employee awareness. For annual updates on progress towards energy conservation, the Postal Service releases a corporate Annual Sustainability Report and a federally-driven Strategic Sustainability Performance Plan. Both are available at www.usps.com/green.

The Postal Service’s priorities for energy management include:

- Building a conservation culture throughout the Postal Service to integrate conservation into day-to-day operations,
- Reducing petroleum fuel used by the Postal Service fleet, and
- Reducing energy consumption and intensity of Postal Service facilities and equipment.

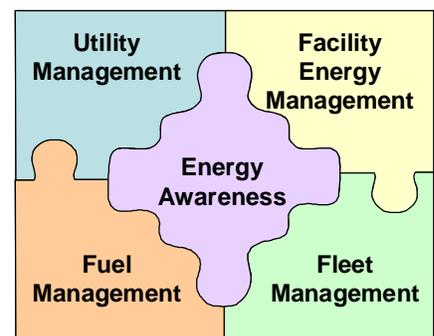


Figure 1: Strategic Target Areas

The Postal Service is targeting fuel, fleet, facility, and utility management to achieve its energy conservation objectives. Managing all of these aspects requires technical proficiency, financial and human capital, and the support of all employees gained through energy awareness.

Since the first strategy was released in 2008, the Postal Service improved its data collection and management systems and made progress on facility energy conservation. USPS developed an Enterprise Energy Management System (EEMS) as a tool to manage the facility portfolio’s energy cost and consumption. USPS adopted better tracking tools for energy and fuel consumption using automated databases, including data from Postal fleet purchase cards feeding all fuel data into the USPS Corporate Energy Interface (CEI).

Progress on energy conservation is mixed. The Postal Service’s energy efficiency projects have resulting in a reduction in facility energy use and intensity. However, petroleum use is a major

challenge for USPS and is closely tied to delivery points. Although USPS has continued to test various alternative fuel vehicles (AFV) and has increased its AFV fleet, its total petroleum use continues to increase. Until the Postal Service's current stock of vehicles is turned over to more efficient models, achieving the petroleum goal will elude the organization.

The Postal Service's unique mission is to deliver mail to every community in America. Energy conservation and efficiency will allow the organization to continue this mission for future generations.

OBJECTIVES & GOALS

Saving energy contributes to the Postal Service's bottom line. It is a business imperative. Energy conservation is also the subject of several federal and USPS-specific goals. The Postal Service is a self-supporting agency that funds its operations from revenue generated by sales of products and services. USPS has several goals for energy, including some voluntarily supporting the federal sustainability requirements in Executive Orders (EO) 13423, 13514, and Presidential Memoranda goals for fleet management.

Vehicle fuel and fleet

The Postal Service is subject to requirements under the Energy Independence and Security Act (EISA) 2007 and the Energy Policy Act (EPA) of 2005 related to fleet and fuel. EISA 2007 directed agencies to reduce petroleum fuel use by 20 percent by 2015. The Postal Service adopted this target as their corporate petroleum goal. Since the release of this strategy in 2008, USPS has increased petroleum fuel use. Reducing overall petroleum consumption continues to be a challenge because the total number of delivery points we must travel to serve our customers continues to grow each year. Further, we are confronted by an aging fleet of delivery vehicles and the lack of capital funds to replace or upgrade in the near future. We are working to optimize our delivery route efficiency and continue to test alternative vehicle technologies.

The petroleum goal is supported by an Executive Order driven target to increase alternative fuel use 10 percent annually from FY 2005 to FY 2015. USPS is on track to achieve the alternative fuel goal, although this fuel represents a small percentage of total fuel use. The federal government placed an additional requirement on agencies to utilize alternative fuel for 5 percent of total use. The Postal Service is far below this goal, at approximately 1 percent.

The Postal Service is also subject to several requirements related to fleet. EPA requires that 75 percent of all covered light-duty vehicles acquired for federal fleets be alternative fuel vehicles (where fleets have 20 or more vehicles, are capable of being centrally fueled, and are operated in a metropolitan statistical area with a population of more than 250,000 based on the 1980 census). Certain types of emergency, law enforcement and national defense vehicles are exempt from these requirements. EPA 2005 Section 701 requires federal fleets to use alternative fuels in dual-fuel vehicles acquired under the EPA of 1992 programs unless the Secretary of Energy determines an agency qualifies for a waiver. Criteria for a waiver include: alternative fuel is not reasonably available to the fleet or the cost of alternative fuel is unreasonably more expensive than conventional fuel.

Related to these objectives and goals, USPS continues to ensure its fleet is maintained to support the delivery mission of the organization. The Postal Service continues to work with vehicle manufacturers to explore the next generation of delivery vehicles.

Facility energy

The Postal Service is subject to the requirements in the EAct 2005 and some provisions of EISA 2007 that govern energy use in federal agencies. Federal agencies are mandated to achieve a 30 percent reduction in energy intensity (Btu/GSF) by 2015 from a FY 2003 baseline. The Postal Service also tracks its own corporate sustainability goal to reduce total absolute facility energy use 30 percent by FY 2015 (Btu).

As of the end of FY 2012 the USPS has successfully met federal and internal energy reduction goals. This coupled with on-going financial challenges has resulted in a shift in focus from large capital intensive projects to one of portfolio management. Moving forward, the USPS Facilities organization plans to implement the following strategies to achieve this objective:

- Maximize utilization of facility management systems/applications,
- Create and/or enhance internal partnerships,
- Provide investment oversight and compliance to ensure gains from investments are maximized,
- Conduct evaluation and implementation of new technologies, and
- Identify energy conservation opportunities.

RESPONSIBLE OFFICES

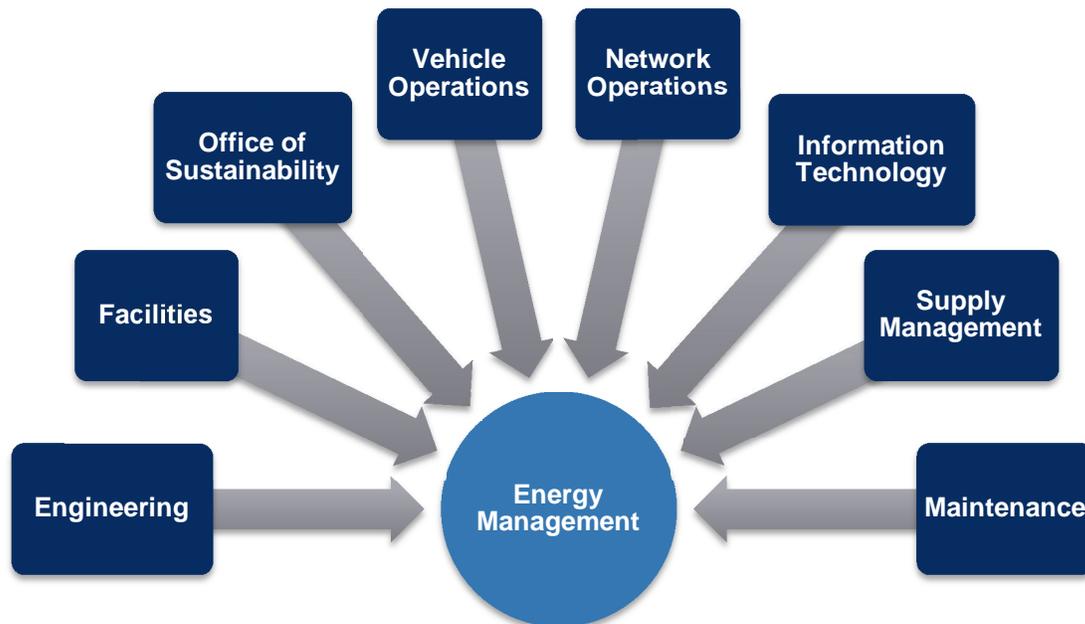


Figure 2: Energy Management Responsible Offices

The deployment and implementation of the Postal Service National Energy Management Strategy involves many offices across the organization. The Office of Sustainability facilitates communication, tracks progress, and manages reporting internally and externally. This Office also manages nation-wide awareness activities and employee engagement including employee recognition and training.

Vehicle Engineering is responsible for exploring new alternative vehicle energy technologies such as Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG), biodiesel, clean diesel, electric, Vehicle to Grid (V2G) for electric vehicles and hybrid fleet applications. This office also establishes demonstration projects, conducts testing, and evaluates vehicles. Vehicle Engineering works with industry and Delivery Operations to select vehicle technologies that reduce energy requirements and meet Postal Service operation needs.

Several groups share responsibility for facility energy management in various aspects. Engineering and Maintenance have primary responsibility and authority over the energy-consuming mail-processing equipment and practices, set procedures for and manage day-to-day facility maintenance functions (e.g., temperature set points, ventilation rates) and ensure that employees are trained on how to use the equipment and maintenance schedules. The Facilities organization is responsible for energy-efficient construction, renovation, repairs and alterations, upgrade/replacement of equipment, as well as to maintain the building design standards, monitor building energy performance, and provide portfolio cost and consumption data for annual Federal reporting.

Information Technology manages data centers and plays a role in electronic power management and the equipment efficiency of the. Related to Information Technology, Supply Management has a role in obtaining energy efficient electronics and other equipment. Supply Management also works with the Offices of Sustainability and Facilities on managing utility contracts and finding cost savings.

Network Operations works to identify opportunities for cost and time savings through route design and optimization.

CORPORATE INVESTMENT

To meet sustainability goals, the Postal Service is committed to making investment decisions that result in the best value return to the organization, its employees and customers. Often this involves making difficult decisions about priorities and trade-offs among investment options. The Postal Service will make these decisions based on a thorough understanding of their impact on the business, customers, employees and the environment. Our objective is to build towards incorporating the total cost of ownership into decision-making. Total cost of ownership is an approach to investment analysis that looks at all costs over the lifetime of a purchase, including direct and indirect costs.

INVESTMENT CRITERIA

Energy management investment decisions are based on an assessment of impact. Specific criteria are:

Life-Cycle cost analysis: Life-cycle cost analysis is a method for evaluating all relevant costs of a project, product or measure. It takes into account upfront, future and disposition costs. Upfront costs include capital investment, purchase and installation. Future costs include energy, operating and maintenance. Disposition costs include disposal cost or salvage value.

Replicable: The Postal Service will give priority to projects that, if successful, can be implemented across the organization. These projects have significant impact by improving large portions of the USPS fleet and facility portfolio. For example, energy audits identify best practices, lessons learned and energy conservation measures that can be replicated nationally. Additionally, advances in the efficiency of mail processing equipment will have an impact across the largest and most energy-intensive facilities nationwide.

Leverage co-funding: The Postal Service will take advantage of opportunities to share the costs of energy projects. These opportunities may include taking advantage of state or utility provider rebates and incentives or community partnerships. USPS also will consider partnership opportunities for new technologies, such as partnering with vendors to test new vehicle technologies or partnering with neighbors on alternative energy projects.

Innovative projects: Innovative demonstration projects allow USPS to test new technologies and support other objectives such as continuity of operations through on-site energy generation, or corporate citizenship through projects that support the local community. These projects may include emerging technologies and projects that don't meet traditional funding requirements. Because USPS gains customer loyalty from favorable publicity, proposed projects likely to attract recognition are encouraged.

Compliance impact: Proposed projects that help comply with legislative requirements, such as the Energy Independence and Security Act, EPCRA and Clean Air Act, are also a priority. These projects might include means of helping USPS reduce energy consumption, air emissions or hazardous waste production in accordance with local, state or federal requirements.

Functional organizational units with primary responsibilities for energy management use these criteria to develop implementation plans with prioritized lists of opportunities to achieve the objectives in this National Energy Management Strategy. These priorities will include sequencing projects to avoid duplication or rework. Each organization requests necessary capital and operational funding through annual budget requests.

As an example of the use of these criteria in investment criteria, Vehicle Engineering conducted a thorough net present value analysis review in October 2012 of hybrid, CNG, and LNG technologies for determination of best value for the Postal Service. Based on the analysis, given present vehicle offerings, their pricing, and lack of natural gas refueling infrastructure for natural gas powered vehicles, none of the options were determined financially advantageous. USPS

continues to monitor market developments, including investigating partnerships with states and local organizations.

STAFFING AND ACCOUNTABILITY

Several functional organizations have responsibilities for achieving national energy management goals. Each organization will assign roles and responsibilities to existing staff and identify requirements for additional support as needed.

For any cross-functional activity, the Office of Sustainability led by the Chief Sustainability Officer will coordinate engagement. The Office of Sustainability also plays a role in tracking performance towards organization-wide goals and objectives.

OVERCOMING BARRIERS

The Postal Service faces several barriers in energy management including; financial, staffing and internal resources, increasing delivery points, decreasing revenue, Congressional restrictions in legislation, behavioral changes in mail use, and limitations of available technology. The functional-specific sections below provide more detail on specific challenges as it relates to operational constraints.

ENERGY SUPPLY RISKS AND CLIMATE CHANGE

The Postal Service's energy management strategy also serves to avoid risk related to the nation's energy supply. Over the next decades, as older energy producing facilities retire, the cost per unit of delivered energy may increase. Prices may also be affected by climate mitigation policies as well as short term geopolitical events. By increasing the Postal Service's energy efficiency, the organization can decrease the effect of these events.

The effects of climate change also play a role in energy planning. The Postal Service is currently evaluating how climate change could affect the organization. For energy, this could include the risks from brownouts and natural disaster response requiring generator and vehicle fuel supplies as well as risk to the grid. The Postal Service's emergency response and recovery system is well-developed. It is quick to get the mail moving. For climate change, USPS is considering how these resources may be challenged.

The Postal Service is currently developing a corporate climate change adaptation plan. This proactive approach to address our vulnerabilities to a changing climate covers the vehicles and facilities that consume energy. In addition, we are evaluating our fuel purchasing opportunities during disasters, to reduce the cost of emergency fueling and ensure the mail is delivered promptly and reliably.

FLEET & FUEL

Fleet and fuel management at the Postal Service includes:

- Vehicle technology: the vehicle types, fuel used, maintenance and repair,
- Routes and network management: the design and management of routes throughout the postal network, including the interface with contracted transportation,
- Fuel management: the consumption and acquisition of fuel, and
- Culture and employee behavior: the human factor, or communication, policy, and training on how to conserve fuel.

This requires coordination between offices responsible across the various aspects of fleet and fuel management. Figure 3 shows the primary offices of responsibility.

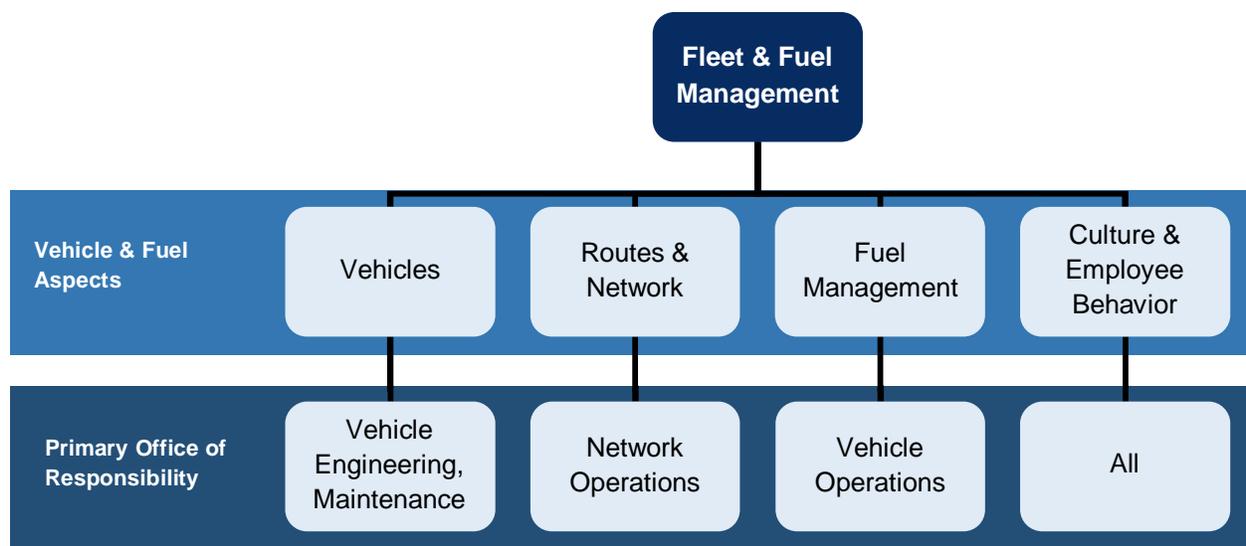


Figure 3: Fleet and Fuel Management responsibilities

FLEET MANAGEMENT STRATEGIES

The Postal Services operates a fleet consisting of more than 212,000 vehicles, one of the largest fleets in the United States. Although mail volume and revenue has decreased, delivery points continue to increase, along with petroleum fuel use.

To reduce energy use, USPS has several strategies for fleets, including: vehicle testing and acquisition, upgrading vehicles where appropriate upgrade kits exist or can be developed, maximizing use of alternative fuel vehicles, and optimizing logistics.

VEHICLE TESTING AND ACQUISITION

The Postal Service can reduce petroleum consumption most effectively by acquiring efficient vehicles. The current light and medium mail delivery fleet is at the end of its life. Vehicles endure due to continued maintenance. The heavy duty seven and eleven ton trucks as well as the tractors for the trailer trucks are fast approaching the end of their useful life. Maintenance costs are increasing and the availability of spare parts has waned. The Postal Service is nearing

the point of replacement or major overhaul of its fleet. USPS has begun the initial process of purchasing 3,500 minivans and 650 two ton trucks as well as service vehicles to improve vehicle fuel efficiency and reduce fleet maintenance costs.

Concurrently with development of the specifications for the replacement vehicles for seven and eleven ton cargo vans and trailer tractors, Vehicle Engineering is investigating new technologies, including hybrid variants, for the next generation right hand drive curb side mail delivery vehicle with planned initial production in 2017.

To support vehicle acquisition decision-making, USPS has a R&D program. This program evaluates alternative or fuel-efficient vehicle technologies from manufacturers and fuel suppliers. The vehicle R&D strategy is designed to reduce the risk associated with investing in a new technology. The Postal Service tests fuels and technologies in operational conditions to determine their overall viability and value added to operations, including fuel cost, maintenance cost and environmental impact. Vehicles are tested over a period that is long enough to accurately assess how each vehicle will serve USPS over time. This will ensure that USPS is in the best possible position to make these decisions, which have long-lasting impacts on operations and the employees responsible for driving and maintaining these vehicles.

Within USPS, Vehicle Engineering's mission is to provide leadership in vehicle R&D, including alternative-fuel vehicles, vehicle acquisition, and technical support. Vehicle acquisition decisions require input from the wide variety of stakeholders involved in and impacted by these decisions. Vehicle Engineering collects input from external stakeholders, such as the vehicle industry, and internal stakeholders, such as Supply Management, Unions, Safety, Delivery and Operations.

MAXIMIZE USE OF ALTERNATIVE VEHICLES

The Postal Service's objective is to maximize the use of feasible alternative fuels in delivery vehicles while minimizing impacts to mail delivery, such as increases in work hours or transportation expenses. This objective is driven by the EPCA 2005 and EISA 2007 and all related requirements to reduce petroleum usage.

The Postal Service's fleet includes ethanol-capable flex-fuel, CNG, hybrids, and electric vehicles. Plug-in hybrid electric vehicles, vehicles that use liquid fuel and batteries charged using an electric power source, can reduce fuel consumption and greenhouse gas emissions.

In regards to future large purchases of alternative fuel vehicles, USPS researches the development of various vehicle technologies in past and current postal fleet and from working with vehicle manufacturers as well as Department of Energy's (DOE) national laboratories on future vehicle technologies. The USPS Vehicle Engineering team has concluded that unless there is a major significant break-through in technology such as a new, cheap and reliable battery for electric vehicles or an inexpensive and simple process of producing hydrogen, etc. in the near future, the next generation of the USPS delivery vehicles should be powered by gasoline or hybrid electric powertrains. This decision will be based on the maturity of technology, the availability of fuel infrastructure, the reliability of technology and finally the commercial availability of such vehicles.

The Postal Service continues to evaluate electric vehicles. The availability of these vehicles is delayed by limited battery sources and poor overall battery reliability and battery life, charging infrastructure requirements and small market share relative to low petroleum fuel prices. The Postal Service will continue to evaluate plug-ins. These vehicles may match well with short delivery routes which are ten to forty miles in length, however compared to vehicles with a larger range, these vehicles could not substitute on a longer route.

The Postal Service recently completed an analysis of the use of CNG based on changes in the price of natural gas in the United States. While the review identified that a nation-wide rollout was not cost effective at the time, USPS continues to identify ways to take advantage of favorable local and regional infrastructure for natural gas powered vehicles.

The Postal Service’s market studies consider the maturity of the market. USPS invested in natural gas before, when a market arose out of low prices for natural gas comparable to conventional petroleum fuels. When circumstances changed, many of these manufacturers went out of business. The Postal Service was then unable to obtain replacement parts or maintain the vehicles to meet standards. This is representative of the challenge the Postal Service faces with new technologies.

OPTIMIZE LOGISTICS

A key strategy for reducing transportation energy use and costs is through optimized logistics. The consolidation of processing operations will decrease the amount of transportation vehicles needed and increase the density of containers to better utilize transportation capacity. The Postal Service is making these decisions while taking into account a variety of business imperatives and plans, including impact on energy use and fleet management.

Optimizing routes reduces vehicle miles driven by the fleet, including consolidating delivery points into fewer, but longer and more contiguous routes and consolidating mail collection throughout the network.

For the national energy management program, the objective is to collect and document the energy impacts of USPS logistical decisions. For example, Carrier Optimal Routing (COR) is being implemented to improve logistics. COR uses a detailed mapping system to create more efficient and safer delivery routes. The system takes advantage of in-depth maps to optimize delivery resources and make route adjustments when necessary. Optimizing routes saves fuel and fuel costs.

SUMMARY – FLEET MANAGEMENT

Objectives	Strategies
Consider energy in logistics, network and vehicle purchase decision making	<ul style="list-style-type: none"> ▪ Partner with other stakeholders to optimize logistics ▪ Inform future decision making through vehicle R&D
Reduce petroleum consumption	<ul style="list-style-type: none"> ▪ Acquire fuel-efficient vehicles ▪ Maximize use of alternative fuel vehicles ▪ Consolidate or decrease routes to reduce mileage traveled

FUEL MANAGEMENT STRATEGIES

The Postal Service is committed to reducing petroleum fuel use 20 percent by 2015, with a baseline year of 2005, by developing and implementing strategies for managing fuel supply and demand. However, each year it is becoming more likely that only major changes in operations or a complete change in fleet vehicle efficiency would allow USPS to reverse its growth in petroleum fuel use and achieve a 20% reduction compared to 2005.

The Postal Service's fuel management strategies take advantage of better information and opportunities with co-benefits to reduce petroleum use.

MANAGE DATA

Fuel tracking and reporting ensures that the Postal Service is aware of trends and events that impact fuel consumption and related spending. It provides the ability to assess, in near real time, the impact of rising fuel prices.

Postal-owned vehicles are fueled in one of three ways: at a retail fuel station using a USPS-issued fleet card, at a Postal facility using a supplier's fuel truck paying with a fleet card and at a Postal facility using an on-site bulk fuel tank. The first two fueling methods are captured in current postal maintained fleet card systems. The fleet card captures each individual retail and mobile fuel transaction. Each facility with owned vehicles has a site manager responsible for reconciling the accounts in the Fuel Asset Management (FAMS) eFleet system on at least a monthly basis. Bulk purchase data are collected in the Solution for Enterprise Asset Management (SEAM) system, the majority of which is tracked in an automated process, but some is uploaded manually.

Highway contract vehicle fuel use is primarily, though not entirely captured through the USPS fleet card. The remainder of contract transportation fuel use from employee-owned rural route vehicles, air, rail, and ship is captured as part of a total contracted expense. The Postal Service estimates this fuel use in gallons for its annual greenhouse gas reporting.

USPS has improved its data on fuel since the first National Energy Management Strategy, using the automated fleet card data instead of through surveys. Its Corporate Energy Interface (CEI) system collects fuel data for all postal-owned vehicles and highway contract vehicles using fleet card and bulk data from SEAM.

IMPLEMENT NO-COST AND LOW-COST MEASURES

No-cost and low-cost measures are actions or changes that the Postal Service can implement quickly and economically to achieve energy savings in the near term. While the overall impact may not be as significant as larger investments, USPS is able to see results quickly. Vehicle Operations is implementing the following short-term opportunities:

- Reduce the number of non-mail hauling vehicles,
- Remove underutilized vehicles,
- Place least fuel efficient vehicles (i.e., lowest miles per gallon) on the shortest routes,

- Increase the use of cost-effective biofuels,
- Increase the use of cost-effective natural gas vehicle and fueling options,
- Increase use of COR,
- Conduct more route inspections and reductions, and
- Conduct route loading analysis to eliminate or consolidate loads.

The Office of Sustainability also supports education and awareness programs for letter carriers to make fuel-efficient driving decisions. USPS developed and distributed fuel conservation kits to field offices. The kits contain a fuel conservation video, poster and memo from the Deputy Postmaster General. The kit is focused on five key tips, including; keep to the speed limit, visibly check tires for under inflation, stick to your route structure, avoid idling for more than 30 seconds, and don't drive aggressively.

In addition, to increase our alternative fuel usage, a pilot program is being launched to encourage drivers to choose E85 fuel when cost effective. Utilizing information from the National Renewable Energy Laboratory's database of alternative fuel stations, vehicles will be equipped with a bright yellow E85 fuel cap as a reminder that there is a choice for fuel to power the vehicle.

PURCHASING STRATEGIES

The Postal Service has implemented several strategies aimed at reducing the cost of fuel and increasing the availability of fuel during emergency situations.

One of the first steps was the centralized management of fuel purchasing. The Fuel Management Category Management Center was created to evaluate and analyze the fuel purchasing process and procedures in order to obtain fuel at below market rates.

Bulk fuel purchasing: As a government entity, USPS is able to purchase vehicle fuel through the Defense Logistics Agency (DLA) Energy, an agency that provides fuel for the military and other federal organizations. As a large-volume purchaser, DLA Energy is able to negotiate better pricing than current market rates. They also are able to provide continuity of supply through having priority access to the national federal fuel network.

Retail fuel purchasing: When needing to purchase fuel in a retail environment USPS uses a fleet fuel card that provides visibility into transactional data, controls on purchases and ability to receive per gallon price discounts and rebates. With this data USPS has identified low-cost leaders as to where to buy fuel and created a Preferred Fueling Network (PFN) consisting of major retail chain fuel providers. The PFN stations provide a discount based upon USPS leveraged gallons going into their network of stations. The PFN has been recently expanded to include alternative fuel providers.

On-site fueling: On-site fueling, commonly referred to as "wet-hosing," is the process of fueling vehicles from a fuel truck which travels directly to vehicles, as opposed to the vehicle filling up at a retail station. Because there is typically a premium associated with this type of fuel delivery (approximately \$0.25 per gallon), the Postal Service considers this option only in circumstances

where there is an operational benefit. It is most appropriate in disaster-prone areas such as the Gulf States during hurricane season. On-site fueling ensures there will be minimal supply interruptions from power outages at fueling stations.

Sustainability clauses: USPS has recently added sustainability clauses in its contracts for transportation. These clauses encourage suppliers to propose alternative fuel solutions and share in the cost savings.

SUMMARY – FUEL MANAGEMENT

Objectives	Strategies
Understand impacts of fuel costs and observe trends in consumption	<ul style="list-style-type: none"> ▪ Track and report fuel use, improve data systems
Take actions that reduce fuel consumption	<ul style="list-style-type: none"> ▪ Implement no-cost/low-cost measures ▪ Increase employee awareness about fuel ▪ Leverage group purchasing and optimize fueling options

FACILITY ENERGY

Facility energy management for the Postal Service consists of addressing:

- Infrastructure: the facility heating, lighting, and physical structure (envelope),
- Equipment and processing: equipment used to process mail and provide mail services, as well as information technology energy demand,
- Usage accounting and data management: the tracking and monitoring systems for facility energy consumption and cost, and
- Behavior: the human factor, including communication, policy, and training on how to conserve energy and manage the workplace to maximize efficiency.

This requires coordination between offices responsible for facility infrastructure, equipment, maintenance, utilities and awareness activities. Figure 4 shows the primary office of responsibility for each aspect of facility energy management.

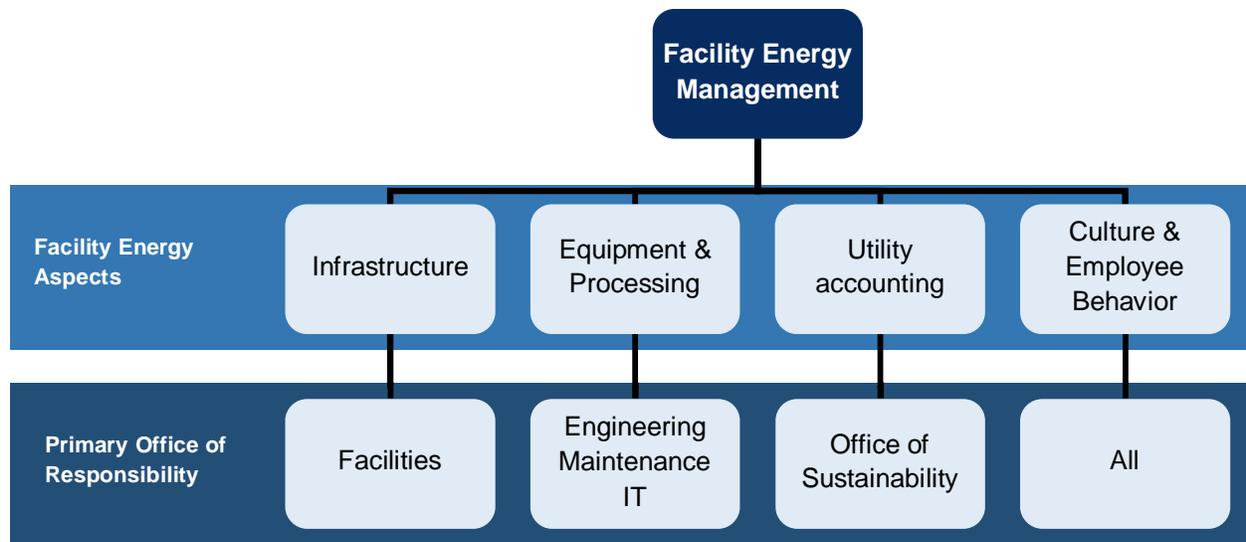


Figure 4: Facility Energy Management responsibilities

EPAct 2005 established several goals and standards to reduce energy use in existing and new federal buildings. EPAct 2005 was further expanded by congress in December 2007 through EISA 2007. EISA 2007 extended an existing federal energy reduction goal to 30% by fiscal year 2015; directed federal agencies to purchase Energy Star and Federal Energy Management Program (FEMP)-designated products; and required new federal buildings to be built 30% below American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standards or the International Energy Conservation Code (IECC). Most recently, in July of 2013, the DOE published a final rule to baseline the Federal energy efficiency performance standards for Federal buildings.

FACILITY ENERGY MANAGEMENT STRATEGIES

EVALUATE EMERGING AND NEW TECHNOLOGIES

The Postal Service product and technology review process exists as a tool for USPS to stay at the forefront of technologies that have the potential to help meet goals and reduce costs. The process provides a method to handle the large number of unsolicited requests from potential suppliers. The Postal Service is interested in technologies which either provide improved performance over specified criteria outlined in the current USPS Standard Design Criteria (SDC) or are uniquely different and present energy, emissions and/or cost savings not currently recognized in postal facilities. USPS is interested in technologies which have been independently third party tested that can provide desired quantifiable and verifiable results. Submissions are made through the Offices of Sustainability or Facilities.

With new technologies, USPS also evaluates different financing alternatives. At this time, legislation addressing the Postal Service's financial situation has not been enacted. The Postal Service continues to experience serious liquidity challenges. This may at times prevent the acquisition of new technologies even with long term financial benefits or the use of innovative financing mechanisms. For example, the use of Energy Saving Performance Contracts (ESPCs)

are considered capital lease financing for accounting purposes and count against the Postal Service debt limit. ESPCs are currently not an active strategy, but will continue to be an option if financial conditions change.

IMPLEMENT AN ENTERPRISE-WIDE ENERGY MANAGEMENT SYSTEM

Enterprise-wide energy data management enables a robust and thorough facility energy management program by ensuring the availability of necessary information and analysis to influence and guide decision making. The Postal Service's EEMS compares facility energy performance across differences in weather, location, size and time period.

The objective is to provide USPS with the ability to monitor energy/utility consumption and equipment performance data of its largest facilities to better manage and realize utility cost and consumption savings. At the core of this solution is the ability to consolidate energy management-related data into a centrally managed energy/utility data warehouse. This includes integrating data from existing national applications and systems such as the Utilities Management System (UMS) and Electronic Facility Management System (eFMS) as well as data from individual facilities. These data will be used to verify building equipment and system performance, monitor savings and identify opportunities for improvement.

Looking forward, the EEMS system and other projects can move the Postal Service towards the "Green Button." The Green Button is an industry wide standard for energy data access. For USPS, being consistent with industry standards can simplify and improve the Postal Service energy management. The Postal Service seeks to adopt industry standards over time.

INFRASTRUCTURE STRATEGIES

IDENTIFY AND IMPLEMENT ENERGY PROJECTS

The Postal Service strategy for existing buildings is to operate and maintain facilities to maximize efficiency. Capital improvements are selected to enhance both operational and energy efficiency and have a solid return on investment and fast payback. Such capital projects investments slow down in times of financial difficulty and have included:

- Lighting retrofits,
- HVAC upgrades,
- Lighting and HVAC system controls (sensors, timers, etc.),
- Energy efficient motors, and
- Window tinting.

As much as possible, the Postal Service supports low and no-cost energy conservation projects along with upgrades to heating, ventilation and air conditioning (HVAC) and infrastructure systems. These low and no-cost projects include:

- Thermostats reset to proper setpoint,
- Air curtains repaired/replaced,

- Exterior door seals repaired/replaced,
- Lighting/HVAC timers reset properly, and
- HVAC and lighting systems maintained regularly.

Over the years, the USPS Facilities organization has utilized energy audits as one of the primary strategies for identifying energy conservation opportunities. Due to on-going USPS financial challenges the number of energy audits being performed has been curtailed. To ensure USPS resources are utilized as efficiently as possible, Facilities is developing EEMS enhancements that will provide improved accuracy with regard to facilities energy performance assessments.

Decisions regarding upgrades and investments also are driven by optimizing facility networks. Ongoing facility space optimization initiatives are intended to consolidate, vacate, and eliminate underutilized facility space, increasing utilization and occupancy rates where appropriate. This effort reduces total energy consumption across the facility portfolio and will result in lower energy utility expense.

CONSTRUCT HIGH PERFORMANCE BUILDINGS

USPS is in a process of consolidation and closure, and not expanding facility infrastructure; however, designing and building high performance buildings must remain a strategy. The Postal Service is committed to an integrated design process that involves facility maintenance personnel in the planning process for any new construction and major renovations. This ensures that the people responsible for operating and maintaining the building are familiar with the building and its systems.

The Postal Service's objective for new construction and major renovations is to exceed the energy efficiency requirements of the ASHRAE Standard 90.1-2007 by 30 percent or the largest amount practical. Life-cycle cost analysis is used to make design and construction decisions based on the life of the asset and not just the initial investment costs.

The Postal Service recognizes the importance of making appropriate energy decisions and balancing tradeoffs to optimize energy efficiency during design. It requires the architecture and engineering design teams to complete energy modeling on proposed buildings and evaluate multiple design options. The life-cycle cost analysis evaluates what the total cost will be over the life of the asset, including purchase, operation, maintenance and disposal. In many cases, the initial cost (the purchase price) may be higher, but the life-cycle operation and maintenance costs are reduced, thus recovering the additional costs and accruing additional savings.

Postal Service facilities are designed and constructed using USPS Building Design Standards (BDS). The Postal Service ensures that the standards include all available and proven technologies that can improve the performance of facilities without adversely impacting mission operations or finances. To accomplish this, the BDS are typically updated annually. The Postal Service will continue to keep the BDS up to date with evolving knowledge about building energy consumption

INCREASE USE OF VIABLE RENEWABLE ENERGY SOURCES

USPS facilities are located in a wide range of geographies and climates, which present numerous renewable and alternative energy opportunities. It currently operates solar photovoltaic systems, geothermal heating and cooling systems, and combined heat and power generation.

In addition to reducing consumption overall, USPS continues to evaluate viable renewable energy sources, such as new solar technologies. The Facilities office considers economic and operational viability, including the availability of state credits and utility rebates and subsidies. Opportunities for renewable and alternative energy are evaluated and managed at the headquarters level. Facilities and Supply Management work in partnership to implement these strategies.

At this point in time, the Postal Service is not investing significant resources into evaluating new renewable energy projects. With improved financial stability or major construction or repair projects, the Postal Service will continue to evaluate new renewable projects.

AUTOMATION AND FIXED MECHANIZATION EQUIPMENT STRATEGIES

IMPLEMENT STANDARDS FOR EQUIPMENT EFFICIENCY

In efforts to reduce energy consumption, the U.S. Postal Service uses a number of measures in several areas of the enterprise. Building energy conservation measures are incorporated into facility standards. Power factor balancing, switch gear predictive maintenance and low cost/no cost measures are a few of the active reduction strategies.

Power Factor: Power factor balancing reduces current load, overall electrical consumption and prevents possible overheating. Power factor correction equipment is routinely specified and installed in new automation equipment and major electrical supply work. This is most important for inductive loads such as in motors.

Switch Gear Predictive Maintenance: A national contract for the predictive maintenance of switch gear provides the efficient operation of the Postal Service's major electrical distribution systems. Annual infrared testing will spot poor connections or parts that may be deteriorating. These conditions can cause wasted energy and potential loss of power. This infrared testing is also performed on both building and mail processing equipment, which verifies optimum operation and efficiency.

Energy efficient equipment: Replacing conventional motors with Variable Frequency Drive (VFD) motors saves energy due to the greater efficiency of these motors. The variable speed feature also allows these motors to run at a speed most suitable for the load. Energy efficient motors may last longer due to the superior design while performing the same work with less energy. Oversized motors are replaced to right size the motor to the application.

Conveyor System Controls: Mail processing conveyor systems are designed to stop sections where no tray traffic exists. This reduces unnecessary run time and wasted energy

consumption. The use of powered roller conveyors optimizes energy use only moving individual trays as needed.

Equipment: When developing specifications for new equipment and upgrading currently deployed equipment the Postal Service identifies opportunities to incorporate energy conservation features into new designs. New equipment is tested at pilot sites before large scale deployments.

Mail Processing Equipment: The cost of operating and maintaining Postal Service equipment during its useful life often exceeds the acquisition cost. These costs include the cost of energy. When buying equipment, energy costs are considered for all capital equipment purchases, including automated processing equipment, fixed mechanization, material handling and retail systems.

MAINTENANCE AND OPERATION OF EQUIPMENT

The Postal Service evaluates opportunities to improve energy efficiency through maintenance and operational standards for equipment. These approaches can include new technology-based solutions, information solutions, training programs, and changes to instructions and policies.

USPS evaluated whether there would be financial savings and energy reduction from sub-metering through a case study at a facility in Maryland. Sub-metering includes benefits such as identification of unnecessary equipment, same day information on maintenance, benchmarking across facilities, optimized demand management, and improved system safety. Sub-metering requires the installation of individual meters at the equipment main power source, network infrastructure access, power monitoring software, and a budget for spare parts, staffing, and reporting resources. Power has been added by automation programs on a system-by-system basis. The ad hoc nature created a complex power distribution design that does not easily allow Sub-Metering equipment to be installed. Numerous power panels are scattered about a facility requiring large numbers of networked Sub-meters to be installed and managed.

USPS was not able to measure complete power under current circumstances at the case study facility. Despite this result, the Postal Service used partial measurements to determine that there is wasted power that can be recovered when equipment is idle. Installing sub-metering at existing facilities may have too high a cost to be implemented, however the Postal Service can take the lessons learned from the case study and apply them to current strategies.

One strategy is to turn off equipment when not in use. While there have been management instructions to turn power off to equipment in the past, multiple constraints continue to prevent this change. Computer issues, the cost of maintenance hours and limited coordination offset the energy savings. The Postal Service also has new safety requirements (EWP) that could require additional work hours when making changes to the equipment related to power. The Postal Service believes that altering the daily maintenance routes to leave power off after mail search and perform operational system checks just before operations begins requires equipment will save energy and USPS money. The Postal Service will pursue an evaluation of changing maintenance and operation schedules to reduce power usage and cost.

REDUCE ENERGY IMPACT OF IT INFRASTRUCTURE

The Postal Service operates two primary data centers in two very different climates — Eagan, MN, and San Mateo, CA. As new IT systems are installed, energy will continue to be a critical consideration. USPS previously had more data centers, but right sized the number to two. The two data centers ensure that USPS systems are safe and secure. Both employ energy saving strategies suitable for data centers.

The remainder of our IT infrastructure is distributed throughout the country, so it is important that our disparate IT users follow energy conservation practices. Users are instructed to power down computers and monitors when not in use for long periods of time. Power management is enabled on all USPS monitors and on all eligible/capable computers and printers. For non-eligible computers, USPS uses wake-on-LAN (local area network) software to enable powered-down units to receive scheduled software updates and patches overnight. USPS has replaced many cathode ray tube (CRT) monitors with energy-efficient flat panel monitors. All USPS eligible laptops and desktops are Energy Star 5.0 compliant.

Energy-saving actions are listed below.

Powering down computer equipment when not in use: More equipment that traditionally has operated 24/7 will be shut down automatically when not needed. This will include monitors, workstations, servers, data storage devices and mainframes. The Postal Service will continue to implement power management across its assets.

Purchasing Energy Star equipment: The Postal Service will investigate all new equipment and purchase only the most efficient hardware, those that meet Energy Star requirements or energy saving systems.

Optimization of data centers: The use of two sites provides an optimal way to manage disaster recovery, production, testing and development, while reducing overhead by having fewer sites.

Using IT to reduce energy costs: The Postal Service will evaluate monitoring software that provides details about changes in infrastructure. Monitoring software will allow the Postal Service to respond immediately to maintain the best possible service levels nationwide. A single platform may also be developed to monitor and analyze IT and facilities assets, including servers, storage and network devices, power management equipment (uninterruptible power supply), HVAC and physical security equipment.

SUMMARY – FACILITY ENERGY

Objectives	Strategies
Implement all available and proven technologies that can improve the energy performance of facilities without adversely impacting mission or operations	<ul style="list-style-type: none"> ▪ Identify and implement capital energy projects in existing facilities ▪ Implement low-cost and no-cost energy conservation opportunities (ECOs)
Improve visibility of, and the ability to locally and remotely monitor energy/utility consumption and equipment performance	<ul style="list-style-type: none"> ▪ Expand enterprise-wide energy management system (EEMS)
Exceed the ASHRAE 90.1-2004 efficiency standard by 30 percent or the largest amount practical	<ul style="list-style-type: none"> ▪ Design and build high-performance buildings ▪ Maintain BDS
Reduce use of fossil energy sources	<ul style="list-style-type: none"> ▪ Increase use of viable renewable energy sources ▪ Continue to increase efficiency of buildings and equipment

UTILITY MANAGEMENT

The objective of utilities supply management is to manage costs and assure reliability of supply by ensuring the best value from third-party electricity and natural gas suppliers and regulated utilities. Supply management of electric and natural gas utilities is regulatory based and includes public utilities, cooperatives and municipal utilities. The regulations governing these utilities vary by state, region, utility and rate classification. These differences are the result of varying market conditions, utility tariffs, regulatory status, rate structure and cost. The Utilities Category Management Team (UCMT) is responsible for establishing and managing utility supply, delivery and related ancillary services¹ contracts for USPS.

¹ Ancillary services are those services incidental to utility supply and delivery and include but are not limited to demand management, demand response, utility bill management, audit, and payment, Tax recovery, EEMS and other energy related services.

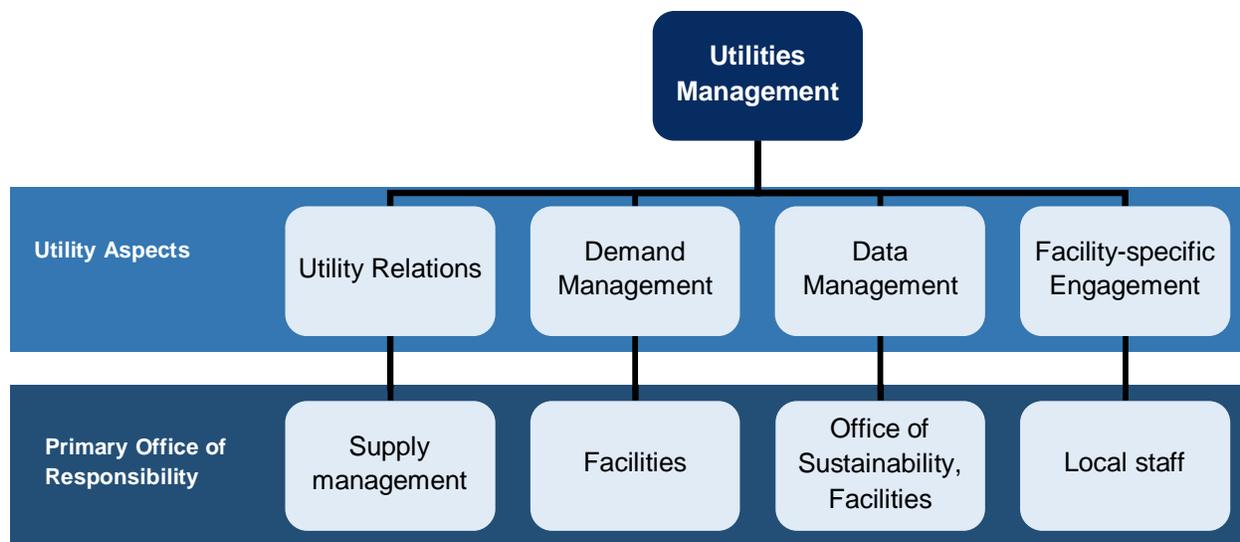


Figure 5: Facility Energy Management responsibilities

USE COMPETITIVE COMMODITY CONTRACTS IN DEREGULATED MARKETS, NEGOTIATE UTILITY AGREEMENTS IN REGULATED MARKETS

As energy markets are deregulated, USPS will have increasing opportunities to purchase energy in innovative and cost-effective ways based on continuous market monitoring, timing of purchases, supplier partnerships risk sharing and the implementation of alternative pricing strategies to minimize price risk. The Postal Service tracks electric and natural gas deregulated markets to identify cost savings opportunities by establishing competitive supply contracts whenever possible to achieve price stability, minimize price risk and secure prices at or below the utility supply rate.

The UCMT has competitively solicited and awarded aggregated electricity supply contracts in all deregulated states with sufficiently developed competitive markets. These contracts are re-competed as they expire and new contracts are scheduled as new markets develop. This strategy is continuously evaluated to assure the Postal Service has implemented best in class processes, identified all cost savings opportunities and achieved process efficiencies through competitive supply contracts. Additional cost savings and process improvements are also achieved through expanded oversight of utility bill management and implementation of expanded ancillary services contracts.

In regulated retail electricity markets, the Postal Service can't choose its electricity supplier. The cost of electricity is based on a regulated rate class or tariff, which the utility and public utility commission define. However, there are opportunities for cost avoidance by negotiating the "best rate" with the utility or by negotiating long-term agreements with more favorable pricing, terms and conditions. The strategies of reducing peak demand and centralized utility bill and audit management also present opportunities, in both regulated and deregulated markets.

Sustainable energy management includes how and when energy is purchased as well as how and when it is used. This includes evaluating power generated from renewable sources, such as wind and solar, in aggregated electric supply contracts.

IMPLEMENT DEMAND MANAGEMENT OPPORTUNITIES

USPS can reduce peak demand charges by reducing the amount of electricity used at any one time, using less electricity during peak hours and taking advantage of off-peak times. Reducing peak demand can be accomplished through a number of opportunities:

- Equipment use scheduling,
- Energy conservation,
- Local power generation,
- Ice storage for cooling, and
- Load curtailment.

Each of these is evaluated and implemented when found to be life-cycle cost effective.

Demand response also requires coordination with utilities in order to take advantage of possible cash payments for kilowatt hours reduced during periods of high demand. This includes participation in state, utility and grid operator curtailment and load-shedding programs.

This strategy depends on accurate data collection and analysis, as consumption information is needed to monitor and manage peak loads. The UCMT works with facility management and other stakeholders to negotiate demand response agreements, manage performance payments, and track savings. Approximately 50 USPS facilities are currently participating in grid and utility sponsored programs in the Northeast, Capital and Western Areas. In FY2014, the program will be expanded into municipal and cooperative utility areas.

IMPROVE CENTRALIZED UTILITY BILL AND AUDIT MANAGEMENT

The Postal Service has historically used multiple decentralized processes to pay utility bills, which hasn't allowed the capture of detailed energy consumption data. The Postal Service now has a centralized utility bill management system - the UMS. In a phased approach, the Postal Service added facilities to UMS over a period of several years. Facilities in the system represent the majority of energy consumption. USPS does not plan at this time to add additional facilities, but continues to manage data and identify opportunities using the system. The purpose is to achieve cost savings and cost avoidance through centralized utility bill review, management, analysis, tracking and payment.

SUMMARY – UTILITY MANAGEMENT

Objectives	Strategies
To manage costs by ensuring the best value from utility commodity suppliers	<ul style="list-style-type: none">▪ Use competitive commodity contracts in deregulated markets and negotiate utility agreements in regulated markets▪ Work with Facilities to implement demand management opportunities▪ Centralized utility bill and audit management▪ Maximize rate and utility partnership agreements to achieved cost savings and assure the most favorable terms and conditions in regulated markets

ENERGY AWARENESS

The national energy management program promotes energy awareness campaigns across the Postal Service and facilitates no-cost and low-cost energy conservation measures. These campaigns explain how individuals can contribute, as well as the value of their contributions. Where appropriate, awareness activities will be combined with other sustainability outreach programs.

The goal is to empower employees to contribute to a conservation culture as they perform their daily duties.

AWARENESS ACTIVITIES & TRAINING FOR EMPLOYEES

The Postal Service is committed to giving employees the knowledge, tools and resources to effectively manage energy as part of their daily activities.

USPS proactively engages its employees in a variety of ways — through videos, with online training, and by making sustainability a key focus of its management courses. In FY 2009, USPS began its most ambitious employee sustainability engagement effort — encouraging its employees at its mail processing facilities, network distribution centers, Post Offices, and administrative offices to help reduce its operational costs and carbon footprint through participation on cross-functional employee teams.

Lean Green Teams are made up of area, district or facility employees who set facility level goals, identify and implement projects, monitor and report performance and recognize participants. This program has grown substantially. USPS is currently working toward greater transparency on the impact of facility energy projects.

RECOGNIZE SUCCESS

Recognizing success supports energy conservation and energy cost reduction by encouraging individuals to implement sustainable energy management practices. USPS recognizes energy

management successes through internal and external means, including government and other energy/environmental award programs.

USPS encourages facility managers to reduce energy costs as a way to reduce operating costs. Also, Energy Initiatives provides assistance with award applications and recognizes employees who are nominated for external awards through internal and external publications.

USPS has annual Postmaster General Sustainability Excellence Awards to recognize initiatives as well as Globe Awards from the Chief Sustainability Officer, which also recognize individual projects and programs.

SUMMARY – ENERGY AWARENESS

Objectives	Strategies
Enable and encourage more efficient behavior	<ul style="list-style-type: none"> ▪ Provide information to employees through web-based, video, and other materials
Encourage employees to implement sustainable energy management practices	<ul style="list-style-type: none"> ▪ Recognize success with recognition programs
Give employees the knowledge, tools and resources needed to effectively manage energy	<ul style="list-style-type: none"> ▪ Provide training ▪ Leverage no-cost and low-cost opportunities

ACRONYMS

AFV	Alternative Fuel Vehicles
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
BDS	Building Design Standards
BTU	British Thermal Unit
CEI	Corporate Energy Interface
CNG	Compressed Natural Gas
COR	Carrier Optimal Routing
CRT	Cathode ray tube
DLA	Defense Logistics Agency
DOE	Department of Energy
ECO	Energy conservation opportunities
EEMS	Enterprise Energy Management System
EISA	Energy Independence and Security Act
EO	Executive Order
EPAct	Energy Policy Act
ESPC	Energy Saving Performance Contracts
FAMS	Fuel Asset Management eFleet System
FY	Fiscal Year
GSF	Gross Square Feet
HVAC	Heating, Ventilation and Air Conditioning
IECC	International Energy Conservation Code (IECC)
IT	Information Technology
LAN	Local area network
LNG	Liquefied Natural Gas
PFN	Preferred Fueling Network
R&D	Research and Development

SEAM	Solution for Enterprise Asset Management
SDC	Standard Design Criteria
UCMT	Utilities Category Management Team
UMS	Utility Management System
V2G	Vehicle to Grid
VFD	Variable Frequency Drive
